

## CLAIMS

What is claimed is:

1. A method comprising:

finding a set of records of a relational database matching an instance of a component of an object type;

updating the set of records of the relational database based on a first set of instances of components of the object type, the instances of components of the first set corresponding to the records of the set of records;

inserting new records in the relational database corresponding to a second set of instances of components of the object type, the instances of components of the second set not matching records of the set of records;

and recursively repeating the finding, updating and inserting with respect to instances of child components of the components.

2. The method of claim 1 further comprising:

deleting records of the set of records, the records deleted related to components of the object type not included in the instances of components; and wherein:

recursively repeating further including deleting with respect to instances of child components of the components.

3. The method of claim 1 further comprising:

extracting a set of userkeys related to the object type and instances of components of the object type; and wherein:

finding includes utilizing the set of userkeys;

and recursively repeating includes extracting a set of userkeys related to the instances of child components.

4. The method of claim 3 wherein:

finding includes utilizing SQL queries directed to the relational database.

5. The method of claim 4 wherein:

deleting further includes cascaded deleting.

6. A method comprising:

finding a set of records of a relational database matching an instance of an object type;

updating instances of components of the instance based on the set of records, the instances of components corresponding to records of the set of records, the instances of components previously present in the object instance;

inserting new instances of components in the object instance corresponding to the set of records, the new instances of components corresponding to records of the set of records;

and recursively repeating the finding, updating and inserting with respect to child components of the components.

7. The method of claim 6 further comprising:

deleting instances of components of the instance of the object type which do not correspond to at least one record of the set of records; and wherein:

recursively repeating further including deleting with respect to child components of the components.

8. The method of claim 6 further comprising:

extracting a set of userkeys related to the instance of the object type and instances of components of the instance of the object type; and wherein:

finding includes utilizing the set of userkeys;

and recursively repeating includes extracting a set of userkeys related to the child components.

9. The method of claim 8 wherein:

finding includes utilizing SQL queries directed to the relational database.

10. The method of claim 9 wherein:

deleting further includes cascaded deleting

11. An apparatus comprising:

means for finding a set of records of a relational database matching an instance of an object type;

means for updating instances of components of the instance based on the set of records, the instances of components corresponding to records of the set of records, the instances of components previously present in the instance;

means for inserting new instances of components in the instance corresponding to the set of records, the new instances of components corresponding to records of the set of records;

and means for recursively utilizing the means for finding, means for updating and means for inserting with respect to child components of the components.

12. The apparatus of claim 11 further comprising:

means for deleting instances of components of the instance which do not correspond to at least one record of the set of records; and wherein:

the means for recursively utilizing further capable of utilizing means for deleting with respect to child components of the components.

13. The apparatus of claim 11 further comprising:

means for extracting a set of userkeys related to the instance and instances of components of the instance; and wherein:  
the means for finding includes utilizes the set of userkeys;  
and the means for recursively repeating utilizes the means for extracting with respect to the child components.

14. The apparatus of claim 13 wherein:

the means for finding utilizes SQL queries directed to the relational database.

15. The apparatus of claim 14 wherein:

the means for deleting includes means for cascaded deleting.

16. A method comprising:

finding a set of records of a repository matching an object instance of an object type;

updating instances of components of the object instance based on the set of records, the instances of components corresponding to records of the set of records, the instances of components previously present in the object instance;

inserting new instances of components in the object instance corresponding to the set of records, the new instances of components corresponding to records of the set of records;

and recursively repeating the finding, updating and inserting with respect to child components of the components.

17. A machine-readable medium embodying instructions, the instructions, when executed by a processor, causing the processor to perform a method, the method comprising:

finding a set of records of a relational database matching an instance of a component of an object type;

updating the set of records of the relational database based on a first set of instances of components of the object type, the instances of components of the first set corresponding to the records of the set of records;

inserting new records in the relational database corresponding to a second set of instances of components of the object type, the instances of components of the second set not matching records of the set of records;

and recursively repeating the finding, updating and inserting with respect to instances of child components of the components.

18. The machine readable medium of claim 17, further embodying instructions, which, when executed by the processor, cause the processor to perform the method further comprising:

deleting records of the set of records, the records deleted related to components of the object type not included in the instances of components; and wherein:

recursively repeating further including deleting with respect to instances of child components of the components.



19. The machine readable medium of claim 17, further embodying instructions, which, when executed by the processor, cause the processor to perform the method further comprising:

extracting a set of userkeys related to the object type and instances of components of the object type; and wherein:

finding includes utilizing the set of userkeys;

and recursively repeating includes extracting a set of userkeys related to the instances of child components.

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20. The machine readable medium of claim 19, further embodying instructions, which, when executed by the processor, cause the processor to perform the method wherein:

finding includes utilizing SQL queries directed to the relational database.

21. The machine readable medium of claim 20, further embodying instructions, which, when executed by the processor, cause the processor to perform the method wherein:

deleting further includes cascaded deleting.

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22. A system comprising:

a processor;

a memory coupled to the processor;

an interface coupled to the processor;

wherein the processor to find a set of records of a relational database matching an instance of a component of an object type,

the processor also to update the set of records of the relational database based on a first set of instances of components of the object type, the instances of components of the first set corresponding to the records of the set of records,

the processor also to insert new records in the relational database corresponding to a second set of instances of components of the object type, the instances of components of the second set not matching records of the set of records,

and the processor also to recursively repeat the find, update and insert with respect to instances of child components of the components.

23. The system of claim 22 wherein:

the processor also to delete records of the set of records, the records deleted related to components of the object type not included in the instances of components; and wherein:

the processor also to recursively repeat the delete with respect to instances of child components of the components.

24. The system of claim 22, wherein:

the processor also to extract a set of userkeys related to the object type  
and instances of components of the object type; and wherein:

the processor to utilize the set of userkeys for the find;

and the processor to recursively repeat the extract a set of userkeys  
related to the instances of child components.

25. The system of claim 24 wherein:

the processor to utilize SQL queries directed to the relational database for  
the find.

26. The system of claim 25, wherein:

the processor to cascade delete for the delete.